of the girder. If the line had been straight, the very contrary would have been the case. Every school-boy knows that he can with safety slide over a piece of ice he dare not stand upon; and that a heavy ball may be rolled over a substance which it would break if placed on its centre. *Velocity decreases vertical pressure*, and a velocity may be conceived by which vertical pressure would be entirely destroyed. A ship in rapid motion draws less water than when at rest. How then is the increase in the deflection of the girder caused by an increased velocity to be accounted for, if the curvature of the rails only caused a lateral pressure of 750 lbs., as stated by Mr. Stephenson.

I come, therefore, to the conclusion that the curvature of the line over the bridge had a great deal to do with its ultimate failure, and I have heard of nothing in the course of the investigation which has shaken this opinion: if it be wrong, I should be glad if any of your numerous correspondents would set me right. GETA.

Liverpool, July 4, 1847.

THE GAS MOVEMENT.

PREPARATIONS FOR A BETTER STATE OF THINGS.

NOT a week passes without some additional progress towards a reduction of the anomalous state of prices to their destined level, as a prelude to the vastly increased diffusion of this noble element of modern comfort and convenience, amongst the domiciles of every class of the community, not only as a cheap and plentiful substitute for the light of day, but as a substitute for the ruder and more cumbrous sources of heat in its application to domestic purposes in general. And even the privileged because the common-good establishment at Manchester, by the profits of which so many magnificent public improvements have been already carried into effect, seems now determined not to be surpassed in the movement towards the diffusion of such a boon as cheap and good gas to every class even of those already otherwise so nobly benefited. From 24th ult., the prices at Manchester have been further reduced to 5s. from consumers of small quantities, and 4s. 6d. from consumers of large quantities; and doubtless as domestic consumption increases, further reductions will lead to further diffusion; and we rejoice to perceive that many of even the monopolist companies seem to have now resigned themselves to a movement onwards with the stream of such a more or less rapid or gradual, but at all events certain, reduction. The Devonport Gas and Coke Company, for instance, in announcing a reduction of price from 6s. to 5s. per 1,000 cubic feet, and recommending the more general adoption of gas for domestic purposes,—towards which, by the way, it has organized a system likely to be efficient, namely, the supply and fitting up of every requisite in private dwellings, for heat, no less than for light, at their own expense, and for a mere annual charge of 7½ per cent. on the net cost of the fittings,—go on to observe, that as the demand for gas will be greatly increased as it is brought within the reach of all for general use, so in proportion to the increase of consumption will it be in the power of the directors [in their inclination, and for their increased advantage, it ought to have been] from time to time to lower the price of their gas, and thus to render its use still further economical to the public."——Following a little further in the wake, but still all actuated by the one grand movement downwards in price—but upwards, we will venture to say, in prosperity—other companies are ever and anon displaying an inclination, however futile, because insufficient, to benefit both the public and themselves. At Dorchester, for instance, a recent announcement of a further reduction to 6s. 8d. per 1,000 cubic feet was lately made, and it now appears that while the company there is "probably in a more flourishing state than most others," their gas is not only beginning to be used in the churches and chapels, hotels and public houses, shops and warehouses, but that it is penetrating into drawing-rooms and parlours, bedrooms, passages, and kitchens, cellars and stables.——At Penrith, the company have reduced their prices at one sweep, as well they might even for their own sake, from 10s. down to 7s. 6d.; and it is to be hoped that the result will shortly induce them to repeat so bold a step with confidence, increasing with the increase of demand upon their mains.——The company at Wells were to reduce their price to 8s. on 25th ultimo; and they have now the confidence to which however they are scarcely yet entitled, to hope "that persons who have not hitherto used this light for household purposes will find it the cheapest as well as the cleanest and safest light that can be used."——Gas works, we observe, are about to be erected at Alton, Hants, and at Needham-Market, tenders having been called for.

The Southampton gas consumers' bill, whose threatened success had already frightened the old company into less unreasonable charges and more civil conduct, has been meanwhile adversely disposed of by the Commons committee; the existing company, however, being put under terms to submit to a Parliamentary obligation, not to exceed six shillings as a maximum charge to private consumers, and also to conform to the reduced scale for public lights according to the model rate. So far, therefore, even in the midst of the temporary defeat of wholesome competition, the old company have no great reason to triumph in the compulsory adoption of the check suggested by THE BUILDER, though as yet but leniently applied. "The adventurous promoters," however, as the *Hampshire Independent* remarks, "have done a service to the town, which the committee has taken care to exhibit accompanied by a martyrdom; warning all against the danger to themselves—whatever may be the good to others—of attempting to promote beneficial competition. The danger of the precedent here laid down is obvious. This is not an age when men choose to become martyrs for the public good. Yet martyrs they must necessarily be, if the very success which they have experienced, in reducing the price and improving the quality of what has become a necessary in any town or city, shall be admitted as a ground for refusing them permission to enter on the actual competition, when the mere dread thereof has forced the monopolists to compromise their own interests, and to consult those of the public."

The days of the age of martyrdom, however, at least of such martyrdom as this, are numbered. After a struggle of fifteen years, Mr. Hume has at length succeeded in purging committees on private as on railway bills from local members, and so the promoters of this and other consumers' companies will be encouraged in future attempts to establish, in all directions, a new and more popular and economical order of things. As regards the local company in question, indeed, it appears accordingly, that they are by no means disposed to abandon their project; but that, on the contrary, they design to recommit their bill, as doubtless many others will do, in the forthcoming Parliament, to the judgment of disinterested members, selected because they are unconnected with the locality on whose best interests they are to be called on to adjudicate. Even in the past session, however, in cases such as that of the Wakefield rival companies, although they agreed to a compromise, they were very significantly informed, that "the satisfaction of the parties immediately concerned would not alone be accepted as a ground for legislative acquiescence; and that in all such cases the public interests, as well as of the parties, should be duly protected.

BUILDING IN ALGIERS.

THE extent to which building is going on in Algiers, is scarcely understood in England. This country is associated in our minds with little but barbarism, Christian slaves, and bombardments; and we are scarcely prepared to hear of a cathedral, churches (some for Protestants), abattoirs, schools, covered markets, banks, custom-houses, &c., on which many thousands of pounds sterling have been expended by the French. Yet such is the case, and the erection of private houses keeps pace with the constant increase of the population. In the mixed or Arabian districts of the three provinces, no less than 842 private houses have been built, the value of which is estimated at 176,000*l.*; besides 38 industrial establishments, estimated at nearly 9,000*l.* more.

THE ARCHÆOLOGICAL INSTITUTE.

LAST week we mentioned the arrangements which had been made for the meeting of the British Archæological Association at Warwick. The meeting of the Institute at Norwich will follow it immediately, commencing on Thursday the 29th inst. and terminating on the 4th of August. The Bishop of Norwich will act as general president, and Mr. Hallam, the Dean of Ely, and Lord Northampton, as presidents of sections. We hope to give full reports of the proceedings of both societies.

The new number of the *Archæological Journal* of the Institute* contains much interesting matter. The first paper, "Architectural Notes in the Neighbourhood of Cheltenham," embraces a number of curious parish churches, illustrated by 18 wood-cuts and etchings. St. Mary's Church, Nun-Monkton, Yorkshire, the subject of another paper, with 11 excellent illustrations, belongs to the end of the 12th century, and was begun in the transition Norman style and finished in the pure Early English; "The west front is of very singular design, and particularly elegant. It is remarkable for the curious and very ingenious combination of a tower and high pitched roof in one design. If the tower were removed, the front would present a gable with a pitch of sixty degrees, thus forming an equilateral triangle on the side walls. On the point of this gable is placed the parapet of the tower, the west side of the tower itself forming part of the gable, and the other three sides being included in the church."

NOTES IN THE PROVINCES.

BESIDES the burning of a number of buildings at Greenwich by lightning during the late midnight storm, considerable damage has been done in various other quarters. Around Kennington, several buildings were much injured, and the district church of St. Mark, facing the common, was considerably damaged, and the building shaken so as to stop the motion of the clock.——A plan and estimate for building the new barracks at Gosport for the Portsmouth division of Royal Marines, have, by direction of the Admiralty, been drawn out and submitted by Captain James, the officer of Royal Engineers in charge of naval architectural works.——The restorations of the Abbey Church at Romsey, are at length so far completed that the re-opening will take place on the 21st instant.——On Tuesday week the new church of St. James, erected at Beal Hey, Shaw, Crompton, was consecrated.——Trevethan new church, Monmouthshire, was consecrated on Thursday week.——The town-hall committee, says the *Birmingham Journal*, have instructed Mr. Edge, their architect, to sell and remove the old materials on property near the town hall; to prepare an estimate of the expense of completing the town hall according to the original design; and to apply to the owners of quarries in Anglesea as to a supply of stone. This had been done, because it took twelve months before any stone could be prepared for the purpose.——The mastership of the Manchester School of Design has been conferred upon Mr. A. D. Cooper, son of Mr. A. Cooper, R.A.——On Thursday week, the corner-stone of the extension, or south wing of the Manchester Royal Infirmary, was laid.—— Another omen of the *fall* of markets, and of those who have hitherto so successfully screwed them up to famine prices, and refused to sell of their superabundance even at these, has just occurred at Liverpool, in the fall of another heavily stored granary from the immense pressure within.——Upwards of 10,000*l.* worth of the land laid out for villas at Eastham, says the *Liverpool Albion*, was brought to the hammer on Tuesday week, and fetched high prices, ranging from 4s. 6d. to 6s. 9d. a yard, principally for terrace lots.——Some of the land bought at Birkenhead at 4d., has sold at 4*l.* 4s. per yard.——The bricklayers and labourers of Derby have struck for an advance of 2s. each per week, or 24s. for the former and 15s. for the latter.——The old oak stalls, which formerly belonged to St. Mary's Church, says a Nottingham paper, though they were smashed down in the most wanton manner, and actually offered for sale at all the curiosity shops, and

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